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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/995,235

11/26/2001

Helena O'Shea

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12/29/2004

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
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EXAMINER

NGUYEN, TOAN D

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

42

Office Action Summary

Application No.

09/995,235

Applicant(s)

O'SHEA, HELENA

Examiner

Toan D Nguyen

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/26/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 8, 11-12, 19, 32-33, 39 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Czaja et al. (US 6,078,570).

For claim 1, Czaja et al. disclose mobile assisted hard hand-off for a code division multiple access (CDMA) system comprising:

obtaining frequency estimation information from a first wireless signal received from a first carrier in a first communication system (figure 1, reference A) (figure 3, reference step 322, col. 7 lines 35-38);

performing a handover to a second carrier in a second communication system distinct from the first communication system (figure 3, col. 5 lines 37-48 and col. 6 line 44 to col. 7 line 64); and

configuring a frequency tracking loop (figure 3, reference steps 312-318, col. 7 lines 6-33) for receiving a second wireless signal from the second carrier as a function of the frequency estimation information (figure 3, reference steps 326-330, col. 7 lines 52-64).

For claim 2, Czaja et al. disclose wherein the frequency estimation information comprises a frequency offset (figure 3, reference step 322, col. 7 lines 35-38).

Art Unit: 2665

For claim 8, Czaja et al. disclose obtaining handover information during an allocated time slot (figure 4, col. 6 lines 33-43).

For claim 11, Czaja et al. disclose mobile assisted hard hand-off for a code division multiple access (CDMA) system comprising:

obtaining frequency estimation information from a first wireless signal received from a first carrier in a first communication system (figure 1, reference A) (figure 3, reference step 322, col. 7 lines 35-38);

performing a handover to a second carrier in a second communication system distinct from the first communication system (figure 3, col. 5 lines 37-48 and col. 6 line 44 to col. 7 line 64); and

configuring a frequency tracking loop (figure 3, reference steps 312-318, col. 7 lines 6-33) for receiving a second wireless signal from the second carrier as a function of the frequency estimation information (figure 3, reference steps 326-330, col. 7 lines 52-64).

For claim 12, Czaja et al. disclose wherein the frequency estimation information comprises a frequency offset (figure 3, reference step 322, col. 7 lines 35-38).

For claim 19, Czaja et al. disclose processor (figure 2, reference 228, col. 4 lines 34-37) executable instructions for obtaining handover information during an allocated time slot (figure 4, col. 6 lines 33-43).

For claim 32, Czaja et al. disclose mobile assisted hard hand-off for a code division multiple access (CDMA) system comprising:

Art Unit: 2665

means for obtaining frequency estimation information from a first wireless signal received from a first carrier in a first communication system (figure 1, reference A) (figure 3, reference step 322, col. 7 lines 35-38);

means for performing a handover to a second carrier in a second communication system distinct from the first communication system (figure 3, col. 5 lines 37-48 and col. 6 line 44 to col. 7 line 64); and

means for configuring a frequency tracking loop (figure 3, reference steps 312-318, col. 7 lines 6-33) for receiving a second wireless signal from the second carrier as a function of the frequency estimation information (figure 3, reference steps 326-330, col. 7 lines 52-64).

For claim 33, Czaja et al. disclose wherein the frequency estimation information comprises a frequency offset (figure 3, reference step 322, col. 7 lines 35-38).

For claim 39, Czaja et al. disclose means for obtaining handover information during an allocated time slot (figure 4, col. 6 lines 33-43).

For claim 42, Czaja et al. disclose mobile assisted hard hand-off for a code division multiple access (CDMA) system comprising:

determining a frequency error of a first wireless signal operating at a first carrier frequency (figure 3, reference step 322, col. 7 lines 35-38);

configuring a frequency tracking loop (figure 3, reference steps 312-318, col. 7 lines 6-33) for receiving a second wireless signal operating at a second carrier based at least in part on the frequency error of the first wireless signals (figure 3, reference steps 326-330, col. 7 lines 52-64); and

Art Unit: 2665

performing a handover to a second carrier (figure 3, col. 5 lines 37-48 and col. 6 line 44 to col. 7 line 64).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5, 13-16 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czaja et al. (US 6,078,570) in view of Czaja et al. (US 6,567,666).

For claims 3-5, 13-16 and 34-36, Czaja et al. (US 6,078,570) do not disclose wherein the first wireless signal is a CDMA signal and the second wireless signal is a GSM signal. In an analogous art, Czaja et al. (US 6,567,666) disclose wherein the first wireless signal is a CDMA signal and the second wireless signal is a GSM signal (col. 8 lines 52-53).

Czaja et al. (US 6,567,666) disclose wherein the CDMA signal is one of a W-CDMA signal and a CDMA2000 signal (col. 8 line 53 as set forth in claim 4); wherein the first wireless signal is a GSM signal and the second wireless signal is a CDMA signal (col. 8 lines 52-53 as set forth in claim 5); wherein the first wireless signal is a CDMA signal (col. 8 lines 52-53 as set forth in claim 13); wherein the CDMA signal is one of a W-CDMA signal and a CDMA2000 signal (col. 8 line 53 as set forth in claim 14); wherein the second wireless signal is a GSM signal (col. 8 line 53 as set forth in claim 15); wherein the first wireless signal is a GSM signal and the second wireless

Art Unit: 2665

signal is a CDMA signal (col. 8 lines 52-53 as set forth in claim 16); wherein the first wireless signal is a CDMA signal and the second wireless signal is a GSM signal (col. 8 lines 52-53 as set forth in claim 34); wherein the CDMA signal is one of a W-CDMA signal and a CDMA2000 signal (col. 8 line 53 as set forth in claim 35); wherein the first wireless signal is a GSM signal and the second wireless signal is a CDMA signal (col. 8 lines 52-53 as set forth in claim 36).

One skilled in the art would recognized wherein the first wireless signal is a CDMA signal and the second wireless signal is a GSM signal to use the teachings of Czaja et al. (US 6,567,666) in the system of Czaja et al. (US 6,078,570). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the wherein the first wireless signal is a CDMA signal and the second wireless signal is a GSM signal as taught by Czaja et al. (US 6,567,666) in Czaja et al.'s system (US 6,078,570) with the motivation being to extend to the European CDMA implementations, to allow handoff between GSM and W-CDMA (col. 8 lines 50-53).

5. Claims 6-7, 17-18 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czaja et al. (US 6,078,570) in view of Critchlow (US 5,276,706).

For claims 6-7, 17-18 and 37-38, Czaja et al. do not disclose wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information. In an analogous art, Critchlow discloses wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information (col. 2 lines 8-27).

Critchlow discloses wherein the frequency tracking loop configures a rotator as a function of the frequency estimation information (col. 3 lines 30-33 as set forth in claim 7); wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated crystal oscillator as a function of the frequency estimation information (col. 2 lines 8-27 as set forth in claim 17); wherein the frequency tracking loop configures a rotator as a function of the frequency estimation information (col. 3 lines 30-33 as set forth in claim 18); wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information (col. 2 lines 8-27 as set forth in claim 37); wherein the frequency tracking loop configures a rotator as a function of the frequency estimation information (col. 3 lines 30-33 as set forth in claim 38).

One skilled in the art would have recognized wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information to use the teachings of Critchlow in the system of Czaja et al. therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information as taught by Critchlow in Czaja et al.'s system with the motivation being to minimize any frequency offset (col. 2 lines 20-23).

6. Claims 9-10, 20-21 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czaja et al. (US 6,078,570) in view of Agin (US 6,564,067).

For claims 9-10, 20-21 and 40-41, Czaja et al do not disclose wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI). In an analogous art, Agin discloses wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI) (col. 2 lines 21-23).

Agin discloses wherein the allocated time slot occurs during a compressed mode (col. 2 lines 45-60 as set forth in claim 10); wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI) (col. 2 lines 21-23 as set forth in claim 20); wherein the allocated time slot occurs during a compressed mode (col. 2 lines 45-60 as set forth in claim 21); wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI) (col. 2 lines 21-23 as set forth in claim 40); wherein the allocated time slot occurs during a compressed mode (col. 2 lines 45-60 as set forth in claim 41).

One skilled in the art would have recognized wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI) to use the teachings of Agin in the system of Czaja et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference

Art Unit: 2665

ratio (SIR), and a received signal strength indicator (RSSI) as taught by Agin in Czaja et al.'s system with the motivation being to provide the compressed mode in an inter-frequency hard handover (col. 2 lines 4-7).

7. Claims 22-24, 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Upton et al. (US 5,784,695) in view of Czaja et al. (US 6,078,570).

For claims 22-24, 27 and 30, Upton et al. discloses method and apparatus for handover control in a satellite based telecommunications system comprising:

a first receiver to receive a first signal from a first carrier (figure 2, reference 30, col. 4 lines 20-21 and col. 4 lines 29-30);

a second receiver to receive a second signal from a second carrier (figure 2, reference 32, col. 4 lines 20-21 and col. 4 lines 29-30).

However, Upton et al. does not disclose the first receiver comprising a first frequency tracking loop to obtain frequency estimation information relating to the first signal; and the second receiver comprising a second frequency tracking loop to obtain frequency estimation information relating to the second signal as a function of the frequency estimation information relating to the first signal. In an analogous art, Czaja et al. disclose the first receiver comprising a first frequency tracking loop to obtain frequency estimation information relating to the first signal (figure 3, reference steps 312-322, col. 7 lines 6-38); and the second receiver comprising a second frequency tracking loop to obtain frequency estimation information relating to the second signal as a function of the frequency estimation information relating to the first signal (figure 3, col. 5 lines 37-48 and col. 6 line 44 to col. 7 line 64).

Czaja et al disclose wherein the first frequency tracking loop is configured to obtain the frequency estimation information relating to the first signal as a function of the frequency estimation information relating to the second signal (figure 3, col. 5 lines 37-48 and col. 6 line 44 to col. 7 line 64 as set forth in claim 23); wherein at least one of the first and second frequency estimation information comprises a frequency offset (figure 3, reference step 322, col. 7 lines 35-38 as set forth in claim 24); wherein at least one of the first and second receivers is configured to obtain handover information during an allocated time slot (figure 4, col. 6 lines 33-43 as set forth in claim 27); wherein at least one of the first and second receivers comprises a RAKE receiver ((figure 2, reference 220, col. 4 line 27 as set forth in claim 30).

One skilled in the art would have recognized the first receiver comprising a first frequency tracking loop to obtain frequency estimation information relating to the first signal to use the teachings of Czaja et al. in the system of Upton et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the first receiver comprising a first frequency tracking loop to obtain frequency estimation information relating to the first signal as taught by Czaja et al. in Upton et al.'s system with the motivation being assisted hand-off between base stations using different carrier frequencies in a CDMA (Abstract lines 1-3).

8. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Upton et al. (US 5,784,695) in view of Czaja et al. (US 6,078,570) further in view of Critchlow (US 5,276,706).

Art Unit: 2665

For claims 25-26, Upton et al. in view of Czaja et al. do not disclose wherein at least one of the first and second frequency tracking loops configures a voltage-controlled, temperature-compensated crystal oscillator. In an analogous art, Critchlow discloses wherein at least one of the first and second frequency tracking loops configures a voltage-controlled, temperature-compensated crystal oscillator (col. 2 lines 8-27).

Critchlow discloses wherein at least one of the first and second frequency tracking loops configures a rotator (col. 3 lines 30-33 as set forth in claim 26).

One skilled in the art would have recognized wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information to use the teachings of Critchlow in the system of Upton et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the wherein the frequency tracking loop configures a voltage-controlled, temperature-compensated oscillator as a function of the frequency estimation information as taught by Critchlow in Upton et al.'s system with the motivation being to minimize any frequency offset (col. 2 lines 20-23).

9. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Upton et al. (US 5,784,695) in view of Czaja et al. (US 6,078,570) further in view of Agin (US 6,564,067).

For claims 28-29, Upton et al. in view of Czaja et al do not disclose wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI). In an

Art Unit: 2665

analogous art, Agin discloses wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI) (col. 2 lines 21-23).

Agin discloses wherein the allocated time slot occurs during a compressed mode (col. 2 lines 45-60 as set forth in claim 29).

One skilled in the art would have recognized wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI) to use the teachings of Agin in the system of Upton et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the wherein the handover information comprises at least one of received signal code power (RSCP), signal-to-interference ratio (SIR), and a received signal strength indicator (RSSI) as taught by Agin in Upton et al.'s system with the motivation being to provide the compressed mode in an inter-frequency hard handover (col. 2 lines 4-7).

10. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Upton et al. (US 5,784,695) in view of Czaja et al. (US 6,078,570) in view of Czaja et al. (US 6,567,666).

For claim 31, Upton et al. in view of Czaja et al. (US 6,078,570) do not disclose wherein at least one of the first and second receivers comprises a GSM receiver. In an analogous art, Czaja et al. (US 6,567,666) disclose wherein at least one of the first and second receivers comprises a GSM receiver (col. 8 lines 52-53).

Art Unit: 2665

One skilled in the art would recognize wherein at least one of the first and second receivers comprises a GSM receiver to use the teachings of Czaja et al. (US 6,567,666) in the system of Upton et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the wherein at least one of the first and second receivers comprises a GSM receiver as taught by Czaja et al. (US 6,567,666) in the system of Upton et al. with the motivation being to extend to the European CDMA implementations, to allow handoff between GSM and W-CDMA (col. 8 lines 50-53).

Response to Arguments

11. Applicant's arguments with respect to claims 1-42 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment on dated 8/18/04 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2665

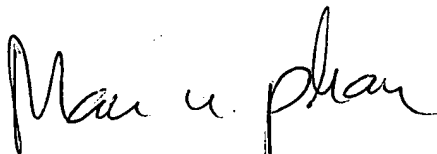
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D Nguyen whose telephone number is 571-272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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